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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,217	05/11/2001	Douglas E. Weiss	55944USA9A.002	6357
32692	7590	10/03/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			TSOY, ELENA	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	
			1762	
DATE MAILED: 10/03/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,217

Applicant(s)

WEISS ET AL.

Examiner

Elena Tsoy

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) 18-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2-5</u> | 6) <input type="checkbox"/> Other: |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/13/2005 has been entered.

Response to Amendment

Amendment filed on 9/13/2005 has been entered. Claims 16 and 17 have been cancelled. Claims 1-15, and 18-22 are pending in the application. Claims 18-22 are withdrawn from consideration as directed to a non-elected invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al (WO 00/04055) in view of Loda (US 4,163,172), Mukohyama et al (US 4,886,840) and Botman et al (Nuclear Instruments and Methods in Physics Research B 139) for the reasons of record set forth in paragraph 4 of the Office Action mailed on 2/14/2005 because:

(i) Weiss et al **expressly** teach that it is believed that, in contrast to prior art e-beam polymerization producing short-chain, branched, highly crosslinked polymeric structures (See page 3, lines 8-12), by conducting e-beam polymerization at temperatures below 20⁰C, the rate of polymer chain propagation is *increasingly* favored over the rate of termination, with the effect of producing polymers with a higher gel content and higher conversion (See page 11, lines 9-13) to provide the necessary balancing of viscous and elastic properties required for a pressure-sensitive adhesive (See page 2, lines 3-10) by producing long-chain polymers with *limited* crosslinking over a broad range of coated thicknesses and with high conversion (See page 3, lines 21-25). As described in the Applicants' disclosure on page 2, lines 3-7, and page 6, lines 20-21), e-beam polymerization produces highly gelled polymers of adequate chain lengths between crosslinks over a broad range of coated thicknesses only when it is carried out *heterogeneously in a single phase* in contrast to homogeneous e-beam polymerization which produces short-chain, branched, highly crosslinked polymeric structures (See specification, page 4, lines 8-32). Therefore, e-beam polymerization of Weiss et al is *inherently* a heterogeneous single phase e-beam polymerization.

(ii) As was discussed in the Office Action mailed on 2/14/2005, it would have been obvious to one of ordinary skill in the art to have determined the optimum values of the relevant dose per pulse parameters within a range of 0.92 Gy per pulse of Botman et al to 75 Gy per pulse of Mukohyama et al, pulses per second parameters including those within claimed range of 500-3,000 when used electron beams of 0.92 Gy per pulse of Botman et al to 75 Gy per pulse of Mukohyama et al and the optimum values of the relevant residence time parameters (including those of claimed invention) in Weiss et al through routine experimentation to *provide the*

Art Unit: 1762

necessary balancing of viscous and elastic properties required for a pressure-sensitive adhesive by producing polymers having high molecular weight lengths between crosslinks.

Therefore, since e-polymerization of Weiss et al in view of Loda, Botman et al and Mukohyama et al is carried out at temperatures below 20⁰C and dose/pulse and pulse rate within optimum ranges which include claimed ranges of low dose/pulse and high pulse rate, their e-polymerization would proceed *heterogeneously* in a single phase since, according to the Applicants' disclosure, e-beam polymerization at temperatures below 20⁰C and dose/pulse and pulse rate within claimed ranges proceeds heterogeneously in a single phase (See specification, page 6, lines 2-3, 14-22).

(iii) According to Weiss et al, conducting e-beam polymerization at temperatures below 20⁰C and a predetermined total dose with any mode of applying e-beam, achieves long chain polymers and provides the necessary balancing of viscous and elastic properties required for a pressure-sensitive adhesive. Therefore, one of ordinary skill in the art would have reasonable expectation of success of achieving at least the same results in Weiss et al in view of Loda, Botman et al and Mukohyama et al with *optimum* dose/pulse and pulse rate parameters.

Response to Arguments

3. Applicants' arguments filed 9/13/2005 have been fully considered but they are not persuasive for the reasons discussed above.

Art Unit: 1762

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-142323. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy
Primary Examiner
Art Unit 1762

September 29, 2005

ELENA TSOY
PRIMARY EXAMINER
ETsoy